

GENERAL NOTES

PART I

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN JANUARY, 2006 BY WINGS AERIAL MAPPING CO., INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 0012 AND NO. 16E1.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 0012 AND 16E1.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
AT&T.....1-800-252-1133
BGE (CONTRACTOR SERVICES).....410-637-8713
BGE (EMERGENCY).....410-685-0123
BUREAU OF UTILITIES.....410-313-4900
COLONIAL PIPELINE CO.....410-795-1390
MISS UTILITY.....1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....410-531-5533
VERIZON.....1-800-743-0033
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.

PART II WATER

- ALL WATER MAINS TO BE PVC C-900 DR-18 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.
- ALL CHANGES IN HORIZONTAL AND VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #67 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1 1/2 DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900. SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAN IRON, INC. OR APPROVED EQUAL.

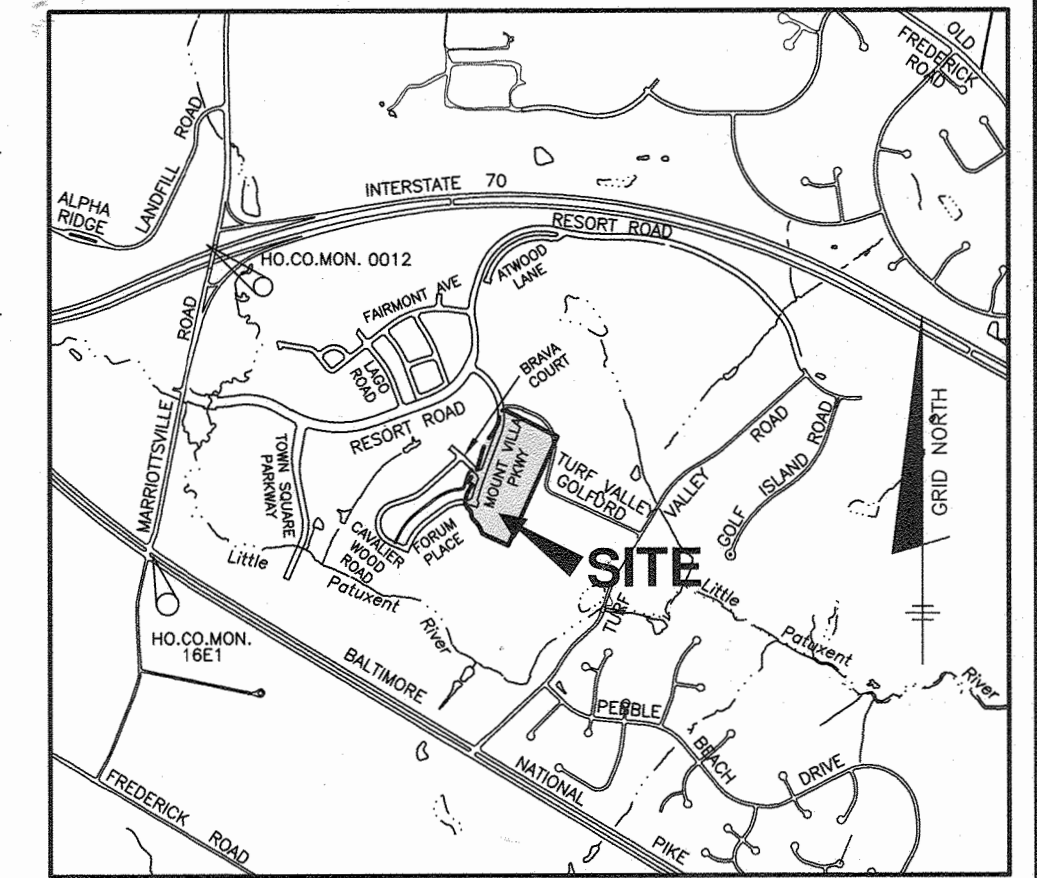
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Alexander Butcher 07/19/21
HOWARD SOIL CONSERVATION DISTRICT DATE

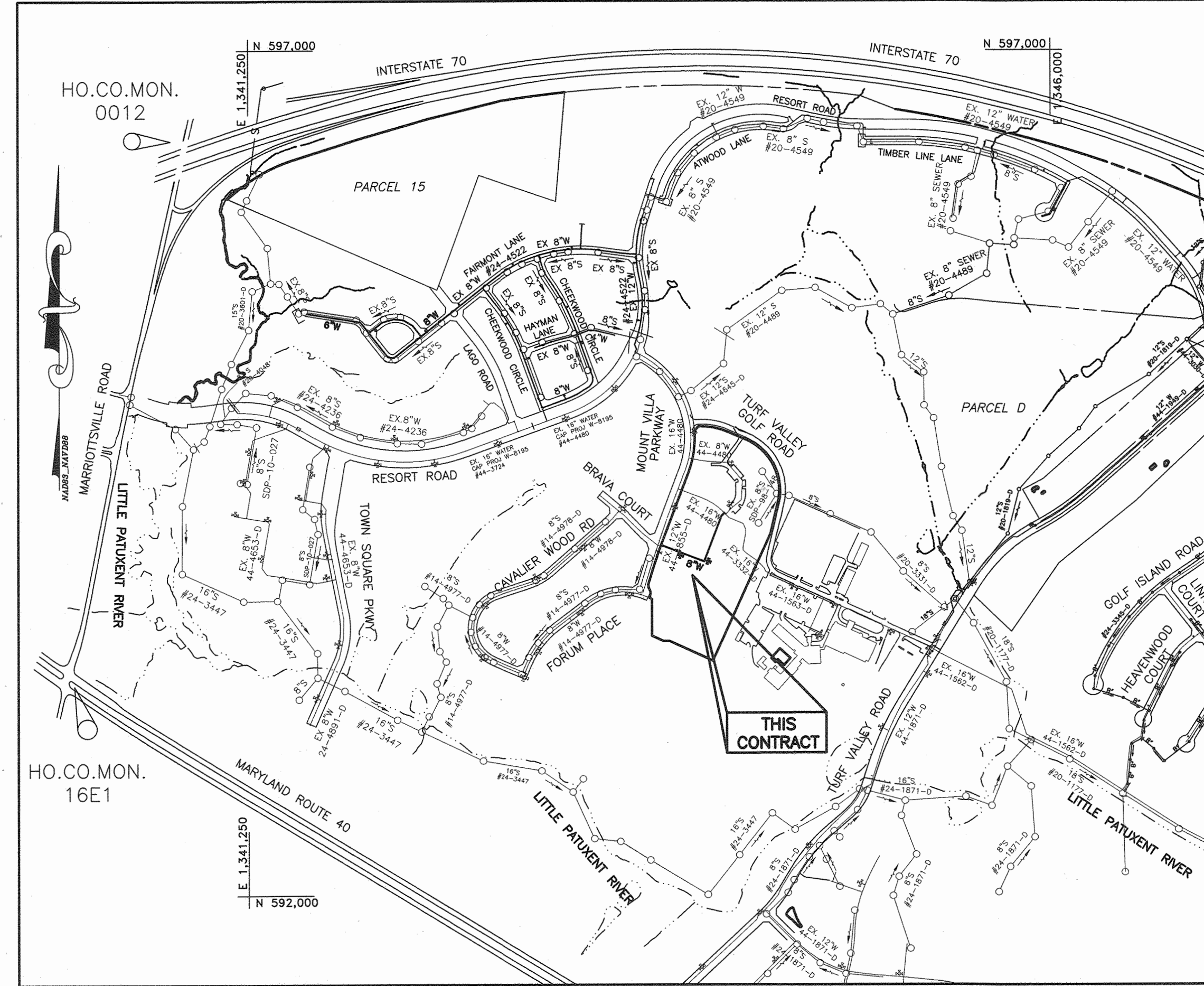
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 508 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SDP-21-001.

VILLA APARTMENTS AT TURF VALLEY PUBLIC WATER DRAWINGS CONTRACT NO. 44-5152-D

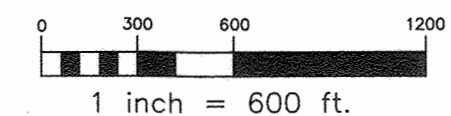
BENCHMARKS
NAD'83 HORIZONTAL
HO. CO. #16E1 (AKA: 3439001)
STAMPED BRASS DISK SET ON TOP OF
A 3ft DEEP COLUMN OF CONCRETE.
N 593250.960' E 1340192.70'
ELEVATION: 463.981'
HO. CO. #0012 (AKA: 3439001)
STAMPED BRASS DISK SET ON TOP OF
A 3ft DEEP COLUMN OF CONCRETE.
N 596502.760' E 1340864.37'
ELEVATION: 486.298'



VICINITY MAP
SCALE: 1" = 2000'
ADC MAP: 19
GRID: D4



LOCATION MAP
SCALE: 1" = 600'



TYPE OF BUILDING: RESIDENTIAL: MULTI-FAMILY
NUMBER OF UNITS: 192
NUMBER OF SHCS: 0
NUMBER OF WHCS: 4
DRAINAGE AREA: ROUTE 108 PS
TREATMENT PLANT: LITTLE PATUXENT WRP
WATER ZONE: 630W
TEST GRADIENT: 907
TEST PRESSURE: 185

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
8" PVC C900 DR-18 WATER	620 LF	620 LF	C900 DR-18	NATIONAL PIPE / LB WATER
6" FIRE HYDRANT, TEE	2 EA	2 EA	6MJ	STAR PIPE / LB WATER
8" x 8" CROSS	1 EA	1 EA	8MJ	STAR PIPE / LB WATER
8" x 8" TEE	2 EA	2 EA	8MJ	STAR PIPE / LB WATER
6" FH VALVE	2 EA	2 EA	2500 RW GATE	AMERICAN FLOW CONTROL /
16" x 8" TSV	1 EA	1 EA	2500 RW GATE	AMERICAN FLOW CONTROL /
8" VALVE	0 EA	0 EA	2500 RW GATE	AMERICAN FLOW CONTROL /
FIRE HYDRANT	2 EA	2 EA	HO CO ORANGE	AMERICAN FLOW CONTROL /

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED INC.
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 9/13/22

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN VIEW
3	PROFILES

LEGEND

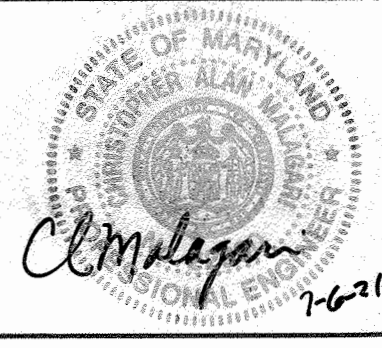
— W — W —	EXIST. WATER MAIN
— W — W —	EXIST. FIRE HYDRANT
— S — S —	EXIST. SEWER MAIN
— — — —	PROP. STORM DRAIN
— — — —	PROP. PRIVATE SEWER MAIN
— — — —	PROP. SEWER MANHOLE
— — — —	PROP. WATER MAIN
— — — —	PROP. FIRE HYDRANT
— — — —	PROP. VALVE

Identification	Appurtenance	WL Station	Location (NAD '83)		
			Northing	Easting	Invert
A	16"x8" T&V	0+00	594246.98	1344079.74	483.80
B	1/32 VB	0+14.05	594236.98	1344069.87	484.13
C	1/16 HB	0+47.34	594213.31	1344046.47	491.75
D	1/32 VB	0+58.62	594202.76	1344042.47	493.00
E	8"x8" TEE	2+40.29	594032.89	1343978.06	493.00
F	8"x6" FH TEE	2+95.67	593981.11	1343958.42	493.00
G	1/8 HB	2+99.00	593977.99	1343957.24	493.00
H	1/8 HB	3+04.54	593975.68	1343952.08	493.00
I	8"x8" TEE	3+08.88	593977.18	1343948.13	493.00
J	5 DEGREE SWEEP	3+40.00	593968.21	1343919.03	493.00
K	5 DEGREE SWEEP	4+08.58	594012.53	1343854.91	499.00
L	8"x8" CROSS	4+25.34	594018.47	1343839.23	499.00
M	8"x6" FH TEE	4+43.69	594024.97	1343822.08	499.00
N	5 DEGREE SWEEP	4+72.36	594035.14	1343795.27	499.00
O	5 DEGREE SWEEP	5+55.23	594064.52	1343717.78	491.75
P	1/8 HB	5+71.02	594070.12	1343703.02	491.75
Q	1/8 HB	5+83.75	594064.90	1343691.41	491.75

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Chris Egan 7-14-21
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
David Palmer 7-29-21
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
2480 BALTIMORE NATIONAL PIKE A SUITE 315 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-6644
WWW.BE-CIVILENGINEERING.COM



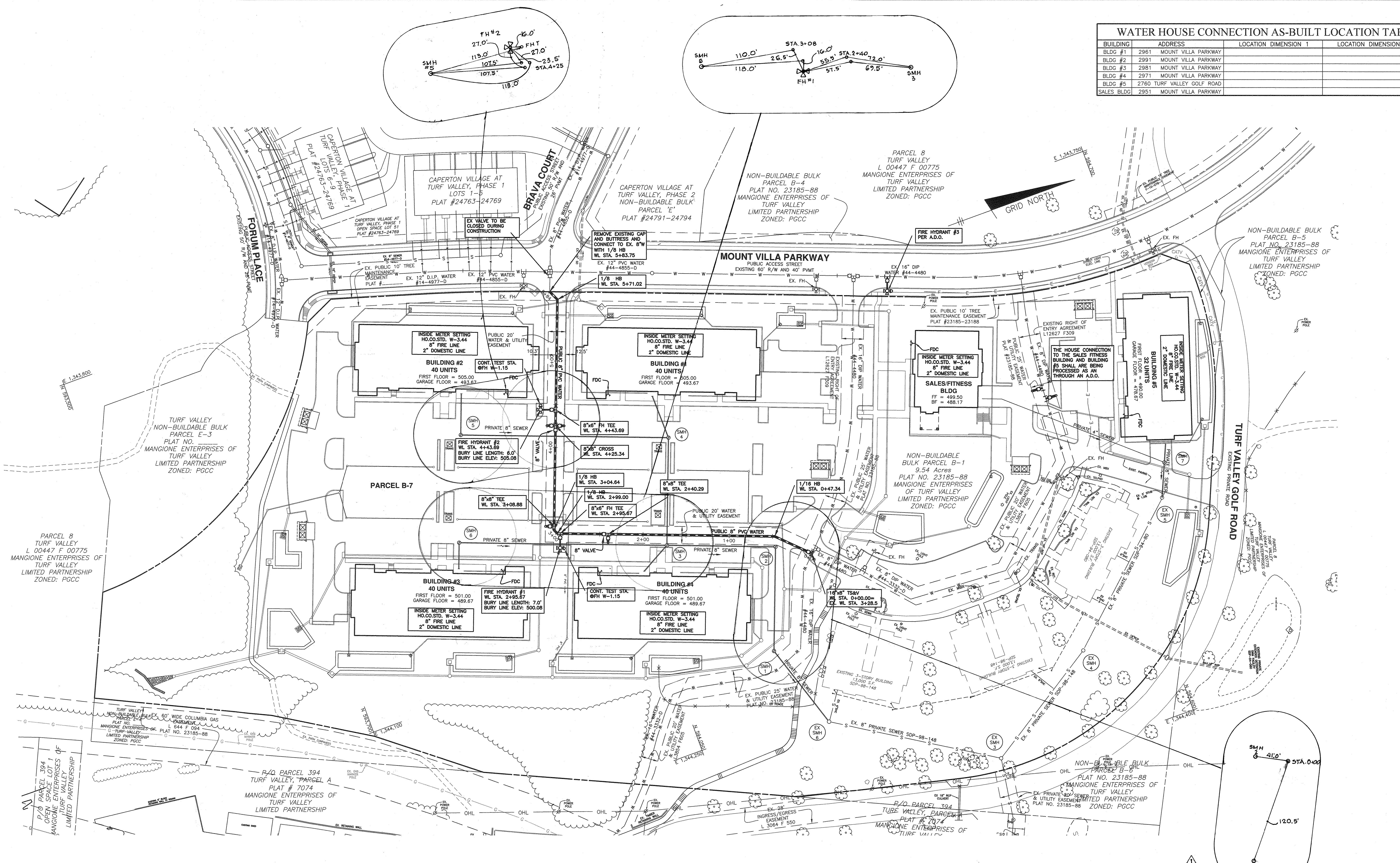
DES: DBT				
DRAFT: DBT				
CHK: CAM				
DATE: 7.7.2021	WRA	AS BUILT	9/14/22	
BY NO.		REVISIONS	DATE	

TITLE SHEET
600 SCALE MAP #16
BLOCK: 11&17

VILLA APARTMENTS AT TURF VALLEY
PARCEL B-7
TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 - ZONED: PGCC-2 - ELECTION DISTRICT 3
CONTRACT NO. 44-5152-D

SCALE: AS SHOWN
SHEET NO. 1 OF 3

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE				
BUILDING	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2	
BLDG #1	2961 MOUNT VILLA PARKWAY			
BLDG #2	2991 MOUNT VILLA PARKWAY			
BLDG #3	2981 MOUNT VILLA PARKWAY			
BLDG #4	2971 MOUNT VILLA PARKWAY			
BLDG #5	2760 TURF VALLEY GOLF ROAD			
SALES BLDG	2951 MOUNT VILLA PARKWAY			



OWNER/DEVELOPER:
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

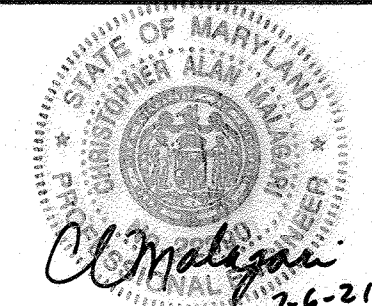
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 23396, Expiration Date: 6-30-2023.

1 inch = 50 ft.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

BENCHMARK
ENGINEERS, LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
6480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-ONLINEENGINEERING.COM



DES:	DBT				
DRAFT:	DBT				
CHK:	CAM				
DATE:	7.7.2021	W.R.A.	AS BUILT	9/14/22	
		BY	NO.	REVISIONS	DATE

PLAN VIEW

VILLA APARTMENTS AT TURF VALLEY
PARCEL B-7

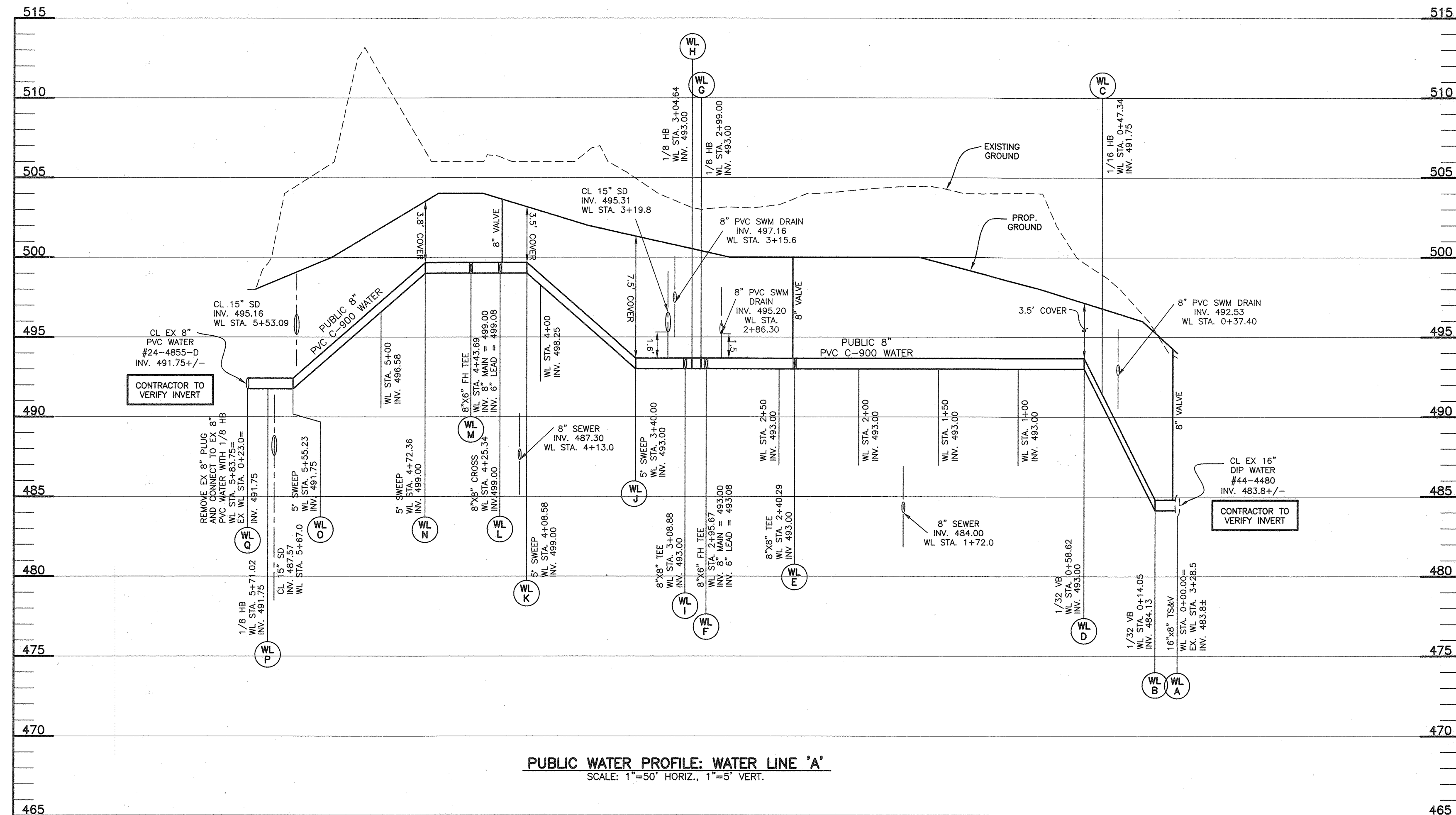
SCALE:
AS SHOWN

TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 - ZONED: PGCC-2 - ELECTION DISTRICT 3
CONTRACT NO. 44-5152-D

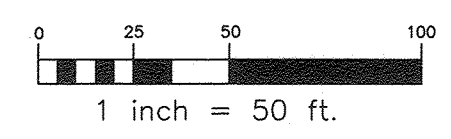
SHEET NO.
2 OF 3

Charles J. ...
7-14-21
CHIEF, BUREAU OF UTILITIES

...
7-29-21
CHIEF, DEVELOPMENT ENGINEERING DIVISION



PUBLIC WATER PROFILE: WATER LINE 'A'
SCALE: 1"=50' HORIZ., 1"=5' VERT.



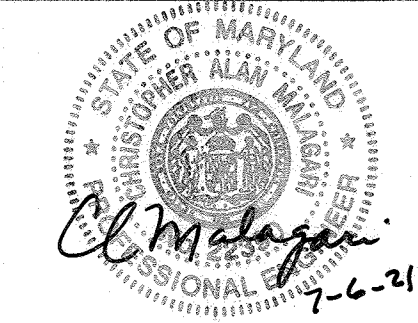
OWNER/DEVELOPER:
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 23390. Expiration Date: 6-30-2023.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.
6480 BALTIMORE NATIONAL PIKE & SUITE 315 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-8844
WWW.BE-CIVILENGINEERING.COM



DES: DBT
DRAFT: DBT
CHK: CAM
DATE: 7.7.2021

BY	NO.	REVISIONS	DATE

PROFILES

VILLA APARTMENTS AT TURF VALLEY
PARCEL B-7

TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 - ZONED: PGCC-2 - ELECTION DISTRICT 3
CONTRACT NO. 44-5152-D

SCALE:
AS SHOWN
SHEET NO.
3 OF 3

[Signature]
7-14-21
CHIEF, BUREAU OF UTILITIES

[Signature]
7-29-21
CHIEF, DEVELOPMENT ENGINEERING DIVISION